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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,800	03/12/2004	Sander Jurgén Roosendaal	NL010603B	8307
24737	7590	04/19/2005	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS			NGUYEN, HOAN C	
P.O. BOX 3001			ART UNIT	
BRIARCLIFF MANOR, NY 10510			PAPER NUMBER	

2871

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/799,800

Applicant(s)

ROOSENDAAL ET AL

Examiner

HOAN C. NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-30 is/are pending in the application.
- 4a) Of the above claim(s) 15, 16, 19, 20, 25, 26, 29 and 30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-14, 17, 18, 21-24, 27 and 28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election of third species (claims 11-14, 17-18, 21-24 and 27-29) in the reply filed on Feb. 07, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Applicants canceled claims 1-10.

Claim 29 is withdrawn from consideration since claim 29 cites the limitation "the first birefringence value of the first area segment greater than the second birefringence value of the second area segment", which relates to the fourth species of the fourth embodiment.

Claims 15-16, 19-20, 25-26 and 29-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on Feb. 07, 2005.

Therefore, claims 11-14, 17-18, 21-24 and 27-28 are considered herein.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 11-14, 21-24 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6731360.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the first area segment and the second area segment consider as the reflective sub-pixel and the transmissive sub-pixel; wherein an optical $\lambda/4$ layer covers essentially only said reflective sub-pixel. Therefore, the optical retardation of the reflective sub-pixel is less than that of the transmissive sub-pixel.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following limitations:

Claims 17 and 27:

- the first area segments include a first polymerized liquid crystal material having a planar orientation at a first angle; and the second area segments include a second polymerized liquid crystal material having a planar orientation at a second angle, the first angle being substantially different from the second angle.

Claims 18 and 28:

- a difference between the first angle and the second angle is approximately 45 degrees.

must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

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the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 11-14 and 21-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Kubo et al. (US6295109B1).

In regard to claims 11 and 21-22, Kubo et al. teach (Figs. 2 and 22) a transfective display device comprising:

- a plurality of pixels, and
- a patterned optical layer that includes a pattern of pairs of first area segments (transmissive regions T) and second area segments (reflective region R), each pair of the plurality of pairs corresponding to each pixel of the plurality of pixels,

Claim 23:

- a pair of polarizing layers that sandwich the pixels and the patterned optical layer

Claim 24:

- each pixel includes liquid crystal material sandwiched between electrodes.

wherein:

- the first area segments provide a first optical retardation, which equals to $\Delta n d_T$, where n is refraction index and d_T is the liquid crystal thickness at the transmissive regions T ,
- the second area segments provide a second optical retardation, which equals to $\Delta n d_R$, where n is refraction index and d_R is the liquid crystal thickness at the reflective regions R ;
- the second optical retardation is substantially less than the first optical retardation since d_R is smaller than d_T .

wherein

Claim 12:

- the pattern provides for pairs of adjacent first area segments and second area segments as shown in Figs. 2 and 22.

Claim 13:

- the pattern provides for a two-dimensional array of pairs of adjacent first area segments and second area segments as shown in Fig. 22.

Claim 14:

- the two- dimensional array of pairs corresponds to an array of pixels in a display device as shown in Fig. 22.

2. Claims 11, 17, 21 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al. (US20020047968A1).

In regard to claims 11 and 21, Yoshida et al. (Figs. 1-4) a display device comprising:

- a plurality of pixels (paragraph 36), and
- a patterned optical layer that includes a pattern of pairs of first area segments and second area segments (liquid crystal regions 102a/102b), each pair of the plurality of pairs corresponding to each pixel of the plurality of pixels,

wherein:

- the first area segments provide a first optical retardation,
- the second area segments provide a second optical retardation
- the second optical retardation is substantially different with the first optical retardation (paragraph 61), thereby one of area segments (liquid crystal regions 102a or 102b) should be substantially less than the other.

Wherein

Claims 17 and 27:

- the first area segments include a first polymerized liquid crystal material having a planar orientation at a first angle; and the second area segments include a second polymerized liquid crystal material having a planar orientation at a second angle, the first angle being substantially different from the second angle as Figs. 1-4 shown.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 18 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (US20020047968A1) as applied to claims 11, 17, 21 and 27, in view of Ham (US6184961B1).

Yoshida et al. fail to disclose a display device, wherein a difference between the first angle and the second angle is approximately 45 degrees.

Ham teaches (Fig. 5) a display device with the first area segments including a first polymerized liquid crystal material having a planar orientation at a first angle; and the second area segments including a second polymerized liquid crystal material having a planar orientation at a second angle, wherein a difference between the first angle and the second angle is approximately 45 degrees (col. 4 lines 13-20).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify liquid crystal display as Yoshida et al. disclosed with with the first area segments including a first polymerized liquid crystal material having a planar orientation at a first angle; and the second area segments including a second polymerized liquid crystal material having a planar orientation at a second angle, wherein a difference between the first angle and the second angle is

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approximately 45 degrees as taught by Ham for preventing the grey level inversion and the color shift and improving the viewing angle characteristics (col. 4 lines 33-36).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Kubota et al. (US 6771334 B2) disclose a transfective liquid crystal display device comprising a retardation film obtained by curing a UV crosslinking liquid crystal polymer under conditions that vary region to region.

Bos et al. (US 4652087 A) disclose a liquid crystal device with a variable optical retarder 12 including nematic liquid crystal cell segments 34 and 36.

Hatano et al. (US 6084647 A) disclose a liquid crystal device comprising the regions 520a' being alignment-treated so that the liquid crystal molecules in contact therewith are aligned in a direction rotated by 45 degrees counterclockwise with respect to the polarizing axis 14a of the corresponding polarizing layers 14 and the regions 520b' being alignment-treated so that the liquid crystal molecules in contact therewith are aligned in a direction rotated by 45 degrees counterclockwise with respect to the polarizing axis 15a of the corresponding polarizing layers 15.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571)

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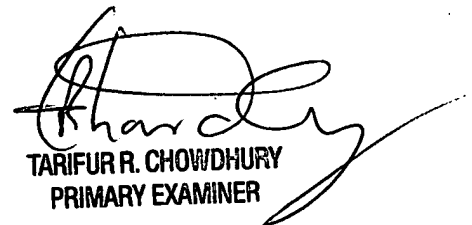
272-2296. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim H. Robert can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HOAN C. NGUYEN
Examiner
Art Unit 2871

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TARIFUR R. CHOWDHURY
PRIMARY EXAMINER